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(54) **COMPOSITION AND METHODS OF USE OF NANO ANTI-RADICAL THERAPEUTICS TO INHIBIT CANCER**

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(57) **ABSTRACT**

This invention relates to the compositions and methods of use of macromolecular nitroxide as a nano anti-radical therapy (NanoART) to compliment current chemotherapy, radiotherapy, immunotherapy, hormonal therapy, biological therapy and surgery in the treatment of cancer. NanoART is unique in that it inhibits all three key steps in carcinogenesis. NanoART inhibits proliferation, progression and metastasis of cancer processes through the free radical based reactive oxygen species pathway. This is a novel comprehensive therapy which has not been addressed by current standard cancer therapies with a single therapeutic agent. NanoART may also exert its anti-cancer activities throughout the body regardless of the location of its administration, and this is a revolutionary new paradigm in medical treatment. As a treatment of carcinogenesis, NanoART has the potential to decrease morbidity, decrease mortality and improve the cure of cancer.